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Hints on Grape Culture.—XXXI.

We resume our consideration of the short arm renewal system at the end of the fourth year. The first thing now to be done is the pruning. This is a very simple matter, and is quickly done. *Fig.* 1 is a portrait of the vine as it now appears, except that the shoots that bore fruit are shown only a part of their length, as a matter of convenience. The pruning of the cane *h* consists in cutting it off at the dotted line *n*. The cane *g* will probably be strong enough to leave the full length of the stake, at the top of which it may therefore be cut off. It will thus be seen that two cuts complete the pruning. Nothing can be more simple; and the same process is continued year after year. The cane that is fruited one year is cut down to a base bud, to produce a new fruiting cane, so that the vine bears on alternate arms each year.

The cane *g* in *Fig.* 1 is to be fruited this year its whole length, and is to be treated precisely as directed last month. The reader may have observed that the treatment of the laterals differs a little from the system first described. The reason of this is, that the vine requires more latitude in consequence of being confined to two canes. If pinching is carried too far, under such circumstances, root action receives a check, and the vine becomes peculiarly liable to mildew. The unchecked growth of the cane on the opposite arm, however, constitutes a safety valve, and the liability to mildew, in consequence, becomes very much lessened. It would be desirable, where this short arm system is adopted, to have the vines planted a little closer together than we directed for the double arm system. There is this advantage, however, in planting the vines four by six feet, that the short arm can at any time be converted into the double arm system.

We directed last month that the cane to be fruited should be temporarily bent down, in order to make the lower buds break strong. This object may be secured in another way when the cane is stout. This consists in twisting the cane around the stake, as shown in *Fig.* 2, and tying the end to prevent it from untwisting. It is done in a moment. A cracking noise will be heard while this is being done; but this need cause no uneasiness, as no harm will be done. It will be well, however, to perform the operation with some care at first, until practice gives the facility to do it rapidly and properly. Twining the cane around

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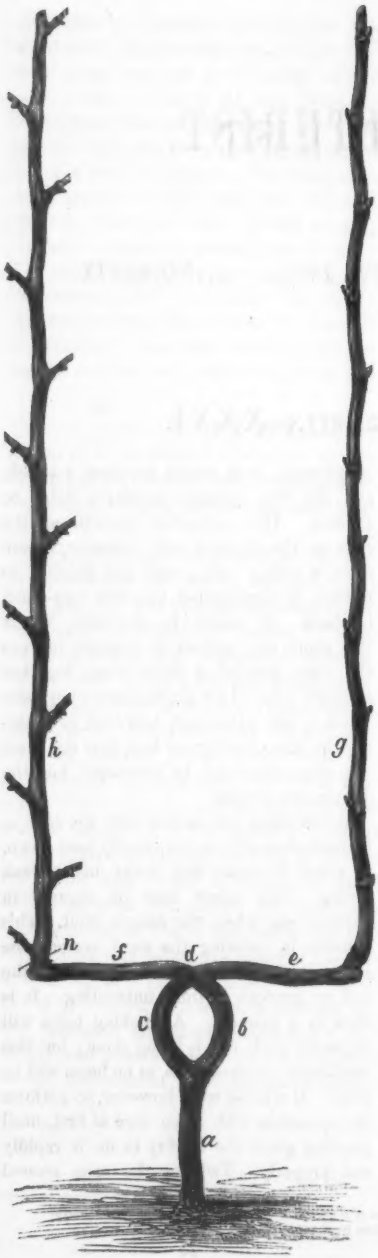


Fig 1.

Fig. 2.

the stake will have the effect of retarding the flow of the sap, and the buds will swell slowly, but very evenly. The canes need not be untwined. We may remark, that in twining the canes the turns must not be too short. We have tried, in *Fig.* 2, to give the reader an idea of the degree of sharpness the turns should have. Twining must not be resorted to when the cane is not strong; it must, in that case, be bent down, as first directed. We may repeat here, the cane must not be fruited its full length if the growth is feeble; for in this case the bunches will not only be small, but will ripen imperfectly, and the vine itself will be more or less injured. Under favorable circumstances, however, the cane ought now to be strong enough to fruit to the top of the stake. The number of bunches of fruit to be left on each shoot must be determined by the condition of the vine, as explained in previous articles.

The repeated cuttings to which the canes are subjected will cause a knob to form at their base, and buds will form abundantly all over it. It will thus happen, as the vine grows old, that many shoots will start from this knob when the cane is pruned; but the reader will understand, of course, that all but one are to be rubbed off.

We have stated that the short arm renewal may be readily converted into the double arm system first described. It will not be out of place here to explain how this is done. The operation is very simple. It consists in cutting the arms off at the points marked *b* and *c*. Several shoots will start from each stump. The two strongest must be selected, and the others rubbed off. They should, if possible, be selected from the outside of the stumps, where the letters *b* and *c* are placed. These shoots must be grown upright the first year, the laterals pinched in, and otherwise treated as heretofore directed for the formation of arms. These canes will be very strong, and the arms might the next season be laid down their full length; but it is better to form them only half their length at this time, for reasons before given. The reader will readily understand the subsequent treatment, if he has read our previous "Hints."

If it is determined to make a change, it would not be advisable to cut down all the vines the same season. A better way is to make the change gradually, or at least to carry it over three seasons, so that a portion of the vines may be in fruit each year while the change is going on. Thus if one third be cut down this year, there will be two thirds left to fruit. Next year another third may be cut down, and one third retained to fruit. The third year the remainder may be cut down, as the first third will then yield some fruit. In this way the change may be made without depriving one's self of fruit while it is going on.

SCHOOL HOUSE AT IRVINGTON, ON THE HUDSON.

By Mead & Woodward, Architects, etc., 37 Park Row, New York.

Our architectural series would be by no means complete if devoted entirely to dwellings; and as the resources of an extensive professional practice in the arts which embellish and beautify our country may be largely made use of, we propose occasionally to vary our subjects.

A school-house is not a building which every one contemplates erecting, and yet a large proportion are, or ought to be, interested in developing in structures of this class such architectural principles as shall make their impressions in early life, and influence future tastes.

This building is designed to accommodate about fifty scholars, being 25 by 40 feet, with a front projection 10 by 18 feet. In the basement is a large furnace and abundant accommodations for coal. The main floor is divided into school-room, two recitation rooms,

hat and coat room, wash closet with sink, and water closet, above which is a large tank, supplied from the roof. An outside cistern supplies cool drinking-water, the purest and healthiest water known, and renders the use of ice unnecessary in summer. The height of all these ceilings is nearly fourteen feet, and each room is thoroughly ventilated; the belfry is provided with a one hundred pound bell; indeed, nothing has been left undone that is calculated to promote the health and comfort of the pupils.

The partition between the doors to the recitation rooms is made in sections, and can be easily removed, thus making one large room for exhibition and lecture purposes. The stage, in this case, is to be placed at the left end of the room. The capacity of the build-

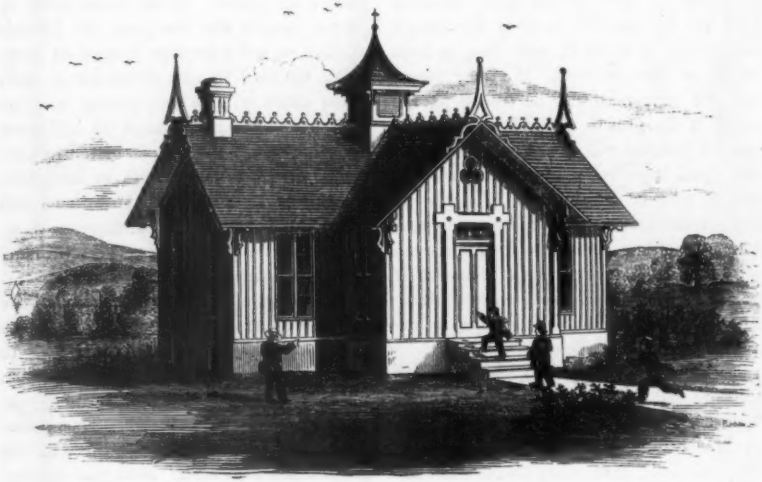


Fig. 42.—Perspective View.

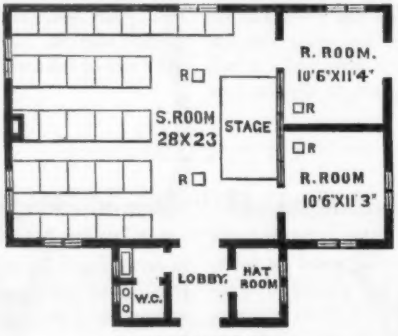


Fig. 43.—Principal Floor.

ing can be nearly doubled by occupying the entire floor as a school-room, and building an addition 12 by 24 feet directly in the rear, opposite to the front projection, for recitation rooms.

The situation of this building at Irvington on the Hudson, some twenty-five miles above the city of New York, is in a charming, healthy, and delightful locality; one made famous by the pen and residence of Washington Irving, and noted for its magnificent scenery, its views of river and mountain, and the fine taste displayed in landscape and architectural embellishments by those who have made their homes in this vicinity.

We have always thought that those educational institutions possess the most attractions that are so situated that all surroundings shall have a favorable influence; and there is nothing like example in early training. Bring up and educate a boy among those who know nothing of the refinements of life, away from the progressive examples of art and taste, in a tumble-down, unplastered, ill-heated and ventilated apartment, and he never can know, with all the aid of books and teachers, the same as one who has enjoyed associations of a higher order. School architecture has a meaning in it; there is value in proportion, harmony, beauty, light and shade, as applied to school buildings, that is not comprehended by all; and a recent writer says better than we can say it, that "It is the duty of teachers, as well as parents and school committees, to see that the circumstances under which children study are such as shall leave a happy impression upon their minds; for whatever is brought under the frequent observation of the young must have its influence upon their susceptible natures for good or evil. Shabby school-houses induce slovenly habits. Ill-constructed benches may not only distort the body, but, by reflex influence, the mind as well. Conditions like these seldom fail to disgust the learner with his school, and neutralize the best efforts of his teachers. On the other hand, neat, comfortable places for study may help to awaken the associations enchaining the mind and the heart to learning and virtuous instruction with links of gold brightening forever."

This building was erected during the last summer's vacation, for Alfred Stebbins, Esq., who has for many years been successfully engaged in the cause of education, and who, with an able corps of assistants, has here opened the fall session. It occupies a portion of the grounds connected with his residence, and was constructed by Mead & Woodward, of New York, by contract, they being the lowest of five bidders. The time occupied from breaking ground to the final finish was thirty-eight days, the whole building being thoroughly complete several days before the expiration of the time agreed on.

COUNTRY HOMES.

By Mead & Woodward, Architects, etc., 37 Park Row, New York.

This design was prepared for erection in the vicinity of Goshen, Orange Co., N. Y., and the accommodation limited to a price not exceeding $2500. It presents in hall, verandahs, and large parlor, some of the very necessary attractions of a country house, and is a good example of what can be done for the sum stated. While the plan is a parallelogram, and the roof free from hips and valleys, the general arrangement is such as to show considerable variety in outline, and one, we think, that will have a pleasing effect.

Such houses, erected in the vicinity of New York, and many of our large cities, would add a large value to the ground they stand on, and pay a handsome rate of interest on their cost; better than any other class of building investments, as the supply is in nowise equal to the demand. It is so simple a matter, with present prompt and rapid railroad facilities, to invite a fair proportion

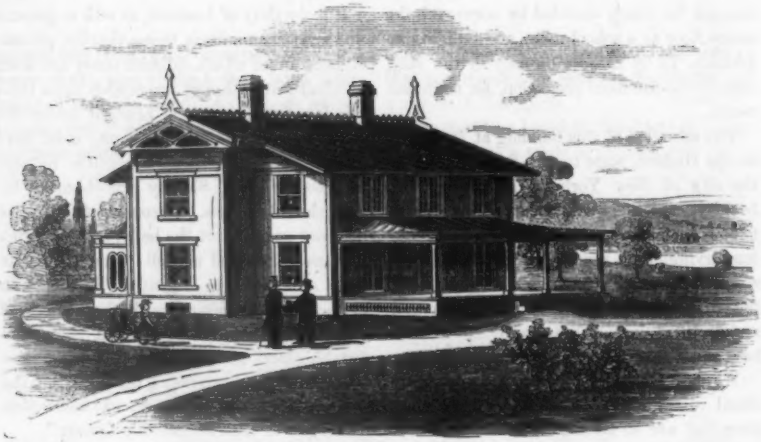


Fig. 44.—Perspective View.

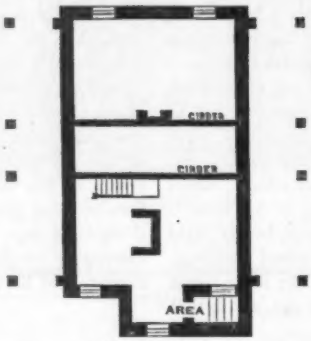


Fig. 45.—Cellar.

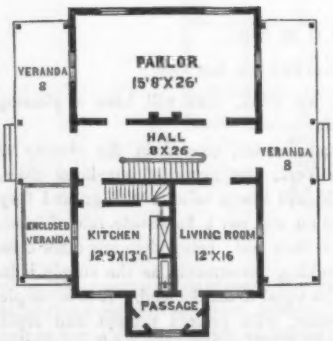


Fig. 46.—First Floor.

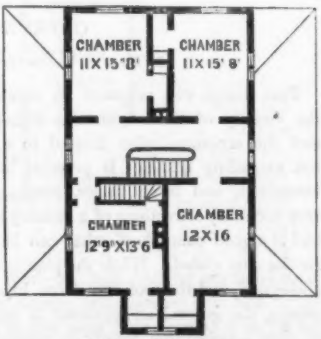


Fig. 47.—Second Floor.

of the young business men of our large cities to make their homes in the adjoining country, that we wonder capitalists and real estate owners do not more frequently make money for themselves and others by erecting tasteful, low-priced suburban homes.

PRESERVATION OF WINTER PEARS.

BY R. S. S., NEWARK, N. J.

Winter Pears are a humbug! I have never yet succeeded in ripening a winter pear. I take all the pains in the world in putting my pears away for the winter, and when I look for them to ripen, they are all either rotted or shriveled up. They remain like so many stones until they begin to rot, or else shrivel, so that when I go to try their flavor, I find them tasteless, and tough as leather.

How common such remarks are among amateur pear-growers; in fact, it is an almost common experience. Disappointment in this regard is a thing of every-day occurrence, even among those who, with a lavish hand, have provided all the means and appliances for realizing largely from the winter pear. We have seen large portions of the orchard given to the very late varieties; we have seen costly structures in the shape of *fruit rooms*, put up even before the trees began to fruit; every thing done in a style "perfectly regardless," and yet heard the confession expressed in the commencement of this article. Why is this so? It can not be because winter pears will not ripen, for we all know they do. We see late in the winter or in the spring, temptingly displayed in the window of the fruit-store or restaurant, luscious, waxy-looking pears, but at a fabulous price.

We have known an amateur friend, an enthusiastic pomologist, go and buy some half dozen specimens at a dollar each, and then go home, sit down before a cheerful fire, and with silver fruit-knife in hand, proceed to discuss their relative merits, all through laudable curiosity, and a desire to understand the matter. All this goes to show that there is in the case either an immense difficulty, or an enormous amount of ignorance. We are inclined to think that the latter is the greater obstacle. And we propose, in this paper, to throw out a few hints by way of suggestion to the amateur, to assist him in the care of his winter fruit.

And first, we would suggest to him not to be led into any such silly extravagance as a fruit-room. Such structures are very pretty things to figure in works on horticulture, to ornament strictly *fancy* places, and to aid in depleting a plethoric purse; but for any other than such persons as are largely engaged in the raising of fruit for a market, making a business of it, and giving their time and thought to the work, we consider that all the fruit-room needed can be found under the same roof that shelters the family.

The maturation of fruit is doubtless a philosophical study, and there are certain conditions of success, precisely as in other branches of science. These conditions being overlooked or neglected, failure is of course inevitable. And to ascertain these conditions we have only to go to nature herself. Take, for example, a tree hanging full of fall fruit, say the Urbaniste. At the moment we are writing the fruit is not mature. The pears have reached their full growth, yet are still very hard, and the stems unyielding; nevertheless, every day shows some slight change, chiefly in color; ripening is very gradually going on; but, per contra, you will find on the tree or upon the ground, some few specimens which are *prematurely* ripe. How is this? are not the conditions the same? Let us examine. On cutting and tasting, we find the natural flavor of the fruit, but not in perfection. Here is the cause: as we dissect we find a grub lodged in the specimen, or that some injury has been sustained. A chemical change has taken place in the juices, but the conditions are evidently wanting. The process, as we have said, is gradual; and as, with the summer and

fall varieties, the conditions are all supplied by nature herself, so we have only to profit by the lesson, and carry it out with the winter varieties, imitating nature, and following her motions as closely as we can.

Secondly. A condition of the very first importance, and without which others are of little consequence, is *care in gathering* the crop. The very late varieties should be allowed to hang on the trees as long as practicable. They are not as sensitive to injury from frost as the fall varieties, and need not be gathered so early. We are inclined to believe that a very common mistake is in gathering the crop too soon. The test of the proper time to take the fruit from the tree is the stem's parting freely from the branch upon raising the pear gently in your hand. If it parts easily, it is time to take the fruit; for otherwise it will soon fall by its own weight; but if it has to be torn away by force, and the stem broken, this condition is violated, and such fruit will in most cases either shrivel or rot. And not only should the proper time in gathering be observed, but the greatest possible care exercised in the handling. Every pear should be handled as gingerly as you can. Recollect that you expect every one of these to keep, and to be of great value in the late winter or early spring. Lay them down as if they were made of glass, and handle as gently as if you had hold of your first-born babe. Reject every thing like an imperfect specimen, for your labor and care will all be wasted upon defective ones. And now you have a fine field and subject upon which to exercise your skill and philosophy.

Thirdly. We have now to go back again to nature, and take a lesson from her. These gathered pears are like so many stones. They would make capital round-shot where a battery had run short of ammunition, and would stay a line of rebel infantry as effectually as lead or iron. It is evident, then, that the process which is to soften and render them fit for food, must be a most gradual and slow one. The next thought is, where shall they be put to undergo this process. Here is another stumbling block. We visited, a few days ago, a friend who is enjoying his first year's experience as an amateur in the country, and was shown by him a fine lot of windfalls—Duchesse d'Angoulêmes, and other later varieties. He had them very carefully ranged on a carpeted floor in a bay window, through which the sun was streaming upon them with tropical fervor, in the vain hope of ripening them for use. They were beginning to shrivel most beautifully; we wish we could color our meerschaum with the same facility as they were being *done*. It is needless to add, we showed our friend his mistake, and he *saw* it.

As the process of maturation is slow, the fruit must be placed where no cause will interfere either to hurry or retard. It is a very good practice to carefully wipe each pear and wrap in paper, (common newspaper will do,) and then to pack in small boxes, using great care not to break off any of the stems; for we consider that much of the beauty of a well-ripened pear lies in a well-preserved stem, and that the disfigurement of losing it is about equal to a cat's being deprived of her caudal extreme. We prefer small boxes for obvious reasons; by small boxes we mean such as would contain from a peck to a half bushel. These boxes should now be placed in some dark depository, either a dry cellar or room, where the temperature is equable and cold. Not so cold, however, as to risk the congealing the juices of the fruit during severe cold weather, but what might be called a cool store-room, which does not feel the heat of the house, and the temperature of which is not liable to change as frequently as the apartments of the house which are heated; a mean temperature of say from 35° to 40°. The fruit packed away, each variety by itself, should be kept here until near the time of ripening, say within three or four weeks, consulting the books for the period of ripening of the several varieties. The pears should then be brought out, and placed in a room warmed as the rest of the house, and laid upon tables or shelves where they can have light and air, but where they will not freeze at night. If it be an inhabited room, which is warmed by fire heat, so much

the better. The pears will now color, and approach rapidly to the condition for eating, growing prettier every day. Such pears as the Beurré d'Anjou, under this treatment, will now become miracles of beauty; and so with all the other late varieties. They can be kept, and they are kept, and late in the season, when a pear is in our remembrance as among the delights that were, we have a luscious fruit ripened in its own natural time, and rewarding its possessor richly for all his care and trouble.

Before closing this article we would add, that an occasional looking after and turning over the fruit during the winter will do no harm.

These comprise, we believe, the conditions of preserving winter pears, and of bringing them to a state of perfect maturation. Let them be carried out by the amateur as above detailed, and we think he will cease to hold the language with which we set out, and will say rather, with us, that he has discovered the secret.

[R. S. S. has here very clearly described the conditions under which winter Pears may be kept and ripened. There is no better place in which to keep them than a cool, dry cellar, possessed of the means of ventilation, and not subject to sudden or extreme changes. They may be ripened by bringing them, at the proper time, to the sitting-room, or any room where a fire is kept, and putting them on the shelves of a pantry or in the drawers of a bureau; but we have found them liable to shrivel and somewhat difficult to ripen in a room heated by a hot-air furnace. A good understanding of the conditions necessary to keep and ripen winter pears will enable most persons to supply them in his own dwelling; but if he grows pears largely for market, he must provide a suitable cellar.—Ed.]

PLANT HOUSES.—VI.

BY THE EDITOR.

We have selected for illustration this month two houses that present some striking contrasts, their objects being as dissimilar as their general appearance. One is a *Green-house* and the other a lean-to *Hot Grapery*.

The first is a green-house that was designed for Dr. Butler, of the Retreat for the Insane at Hartford, Conn. The doctor had conceived the idea that a green-house might be made to serve a very important part in the treatment of the insane, having noticed the soothing influence of plants upon his patients, more especially the females. We have no doubt that his anticipations will be fully realized; for we can scarcely conceive of any thing better calculated to heal the "mind diseased," than daily intercourse with these voiceless, but gladsome children of Nature.

Fig. 1 is a perspective view of the house. It is twenty-four feet wide and seventy-five long. It has a low, curved roof, and side sashes three feet six inches high. We do not make these roofs low for the sake of architectural effect, though this point is certainly gained; but rather for the sake of the plants, a low roof, in this respect, possessing incalculable advantages over one that is steep. When attention is once generally fixed on this point, plant growers will not be slow to acknowledge the superiority of the low roof. It has often surprised us that gardeners will assume a great deal of unnecessary labor for the sake of an old prejudice. Some of them are slow to avail themselves of improvements that not only lessen their toils, but bring greater certainty and pleasure to the pursuit of their profession. Others, again, are quick enough to avail themselves of every facility brought within their reach. We could wish that the latter class might multiply rapidly.

One of the prettiest features about this house is its rounded ends. The pitch of the roof and the width of the house are such, taken in connection with the circular ends, that all the lines flow into each other with

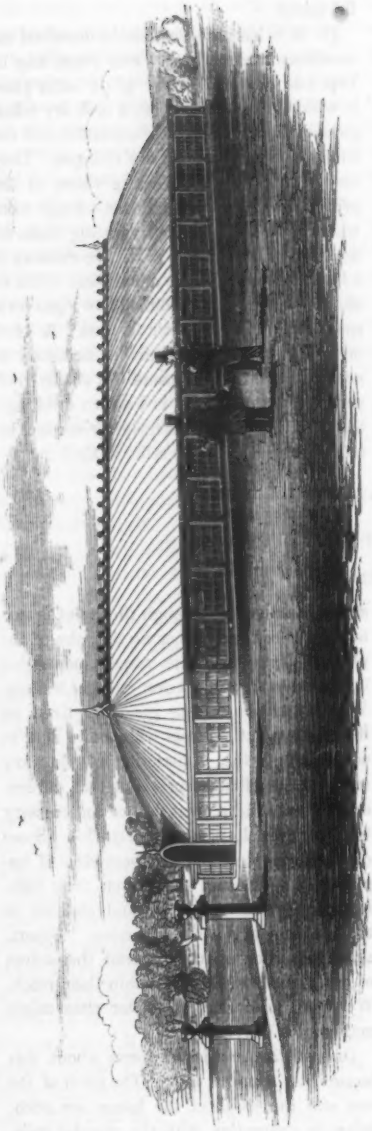


FIG. 1.—Perspective View.

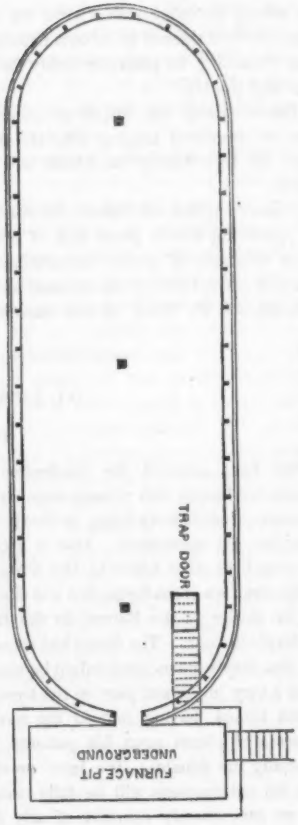


FIG. 2.—Ground Plan.

the utmost harmony. These different parts were studied with reference to producing this result, and we think it has been done with some degree of success. The finials, the ornament along the ridge, and the entrance door, are all in keeping with the rest of the structure. We shall be excused for saying that we consider it a beautiful building, with an expression of noble repose that will strike most beholders. When finished, we think the people of Hartford will feel proud to have such a house in their midst, and we hope they will not be backward in rendering Dr. Butler such further assistance as he may need for its completion. It will not do to object to the style of the house, and say that one less expensive should be erected; for such an objection would be fatal to the purpose the doctor has in view, the restoration of a diseased mind to its normal condition. To do this in the manner proposed, he must not only affect the mind favorably, but deeply, and produce none but pleasurable emotions; he must therefore have a house which is beautiful in all its lines and proportions, and one in which plants may be grown in their greatest perfection, so that the house, from whatever point viewed, may produce a marked and happy impression. No common, ill-designed structure will do this. Let him, therefore, by all means have the best house that experience and good taste can design, for no person can tell what beneficent results this experiment may produce.

Fig. 2 is the ground plan. This presents some peculiarities. The house being designed for the use of the insane, it was desirable to place the heating apparatus out of their reach; the boiler is therefore placed under ground. For this purpose a vault of sufficient size to hold the boiler and several tons of coal, is built under ground in front of the house. It is substantially built of brick, and arched over. The smoke shaft is carried up through the roof, and finished above ground in the form of a column or pedestal, surmounted with a vase, as seen in *Fig.* 1. To harmonize the grounds, and conceal the purpose of this column, another is placed on the opposite side of the path. In summer, these vases will be filled with plants, and the columns are intended to be covered with vines, thus making them subserve an ornamental purpose. There are two entrances to the boiler vault, one from within by a concealed trap-door, and the other from without. The house will be heated by hot-water pipes.

There will be neither shelves nor tables in the house. The plants will be set either on or in the ground, and the whole interior made to resemble as much as possible a flower garden. The plants will thus be easier seen, better enjoyed, and more appreciated than if placed either on tables or staging. Nothing can be in worse taste than the staging commonly found in green-houses and conservatories; and we have never seen any good reason assigned for its use, except in some old-fashioned, steep-roofed, lean-to house. We look upon it with great disfavor. In any well-designed house, the plants look and grow infinitely better upon flat tables; and a large class of plants will grow even better upon the earth floor of the house. Staging and paving the floors of green-houses we should be glad to see speedily numbered among the things of the past.

Our next example is a lean-to grapery for early forcing. It was designed for a gentleman in Connecticut, but is not yet built.

Fig. 3 is a perspective view. It runs east and west, and is designed to correspond in a measure with another house on the place, though the roof of this is much flatter. There are no side lights. Ventilation is effected by openings along the ridge, and by the sashes over the doors, which are hung for the purpose. The roof is continuous, and both ends of the house are glazed. Without being pretentious, it is a neat and pretty house of its kind.

Fig. 4 is the ground plan. The sills of the front or glass part rest on brick piers, to allow the roots of the vines to run out, the border being both in and outside the house. A wooden partition on the north side of the walk divides the house into two unequal

parts, the north being used for a potting shed, tool house, etc. It is about equivalent to so much waste room. This apartment is furnished with tables, etc., and is well lighted by windows at the side and ends. A water tank is conveniently placed in the middle. In the northwest corner is the boiler pit.

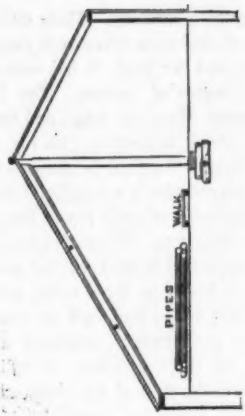


FIG. 5.—Section.

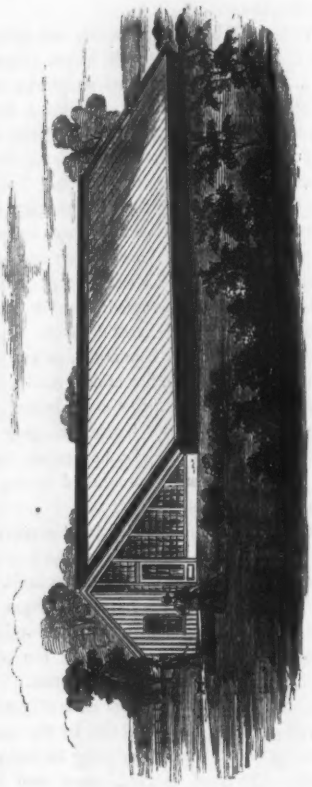


FIG. 3.—Perspective.

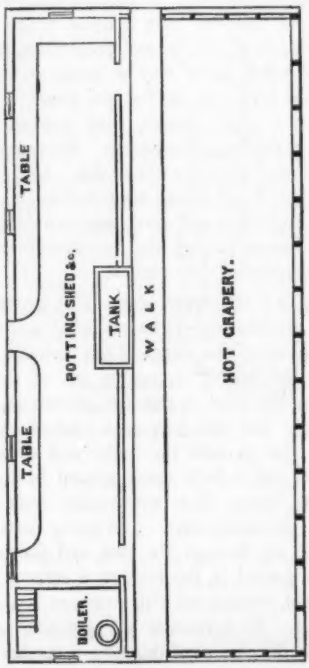


FIG. 4.—Ground Plan.

This is sufficiently large to hold coal, and is furnished with a chute for throwing it down. The grapery is to be heated by four rows of pipes, the object being to force early.

Fig. 5 is a section, showing the arrangement of pipes, walk, etc.

The house is a good one, and if well managed will not fail to yield satisfactory results.

PLOWING ORCHARDS—ACTION OF LIGHT.

BY NOVICE, PLATTEKILL, N. Y.

A FEW months ago, while too indisposed to labor, and too well to be idle, I ventured to suggest some modification of one or two of the rules laid down in your journal for the management of orchards; and likewise took the liberty to criticize some of the remarks of your correspondent, P. G. Bertolet, published in the third number of the current volume; hardly expecting, however, that my essay would claim that notice that your courtesy has given it, or elicit a response from your correspondent.

I should have noticed his reply in the seventh number before this, but for sickness in my family, and other causes beyond my control. I have nothing to add on the subject of plowing orchards, except that, if friend Bertolet's soil is of such a texture as to permit the rootlets of his trees to penetrate it easily, and to furnish them with moisture from beneath by capillary attraction, when the clouds withhold it, it is a saving of labor which my gravelly loam imposes on me, both in orchard and cornfield.

As to the subject of light, I clearly admitted its influence on vegetation, but confined that influence to the leaves, thinking that Nature had intended its exclusion from the roots, seeing she plants them beneath a covering which I supposed to be opake. We perfectly agree, too, that light is necessary to the process of assimilation; but which are the assimilative organs is a question upon which we may differ. Friend Bertolet quotes Professor Wood as authority, and perhaps I should be presuming too much to contradict the opinion of one standing so high in the estimation of the scientific world. As my object in writing is not so much to teach as to be instructed, not so much to sustain preconceived opinions as to elicit truth, permit me to ask freind B. a few simple questions.

1. Is there any organic change effected in the roots of a tree by substituting for its natural branches, those of another variety, or, in other words, by budding or grafting?

2. If not, would not the spongioles of the quince root, if they are the assimilative organs, elaborate the materials that constitute the quince, though the branches of the Bartlett pear might be growing over them? Or should it happen that pear and quince branches were growing on the same root, how would the spongioles furnish the necessary aliment for each, through the same pores?

I would ask, too, whether the examples your correspondent has adduced to prove the pervasive properties of light, is conclusive evidence that it penetrates not only the darkest cellar, but even the solid lime rock. With regard to the first, although the nitrate of silver, or other material with which the photographic plates are coated, is suddenly acted upon by light, as well as by "electricity and solar or terrestrial heat," does that prove that the impression would not be *gradually* effected by electrical and calorific agency without the light, seeing we have no evidence that light was present in that *darkest* cellar?

As to the second example, although it may be admitted that light is necessary to the development of the animal organism, yet we ask for proof that the frog quarried from the lime rock was any thing other than a fully developed frog, when, during one of its annual hibernations, it became so deeply immured in calcareous mud, as ever after to be beyond the resuscitating influence of summer sunbeams, until it was knocked into daylight by the geologist's hammer. I, too, have disinterred from rocks, whose periods of deposition date far back of the old red sandstone, not frogs, but trilobites, orthoceratites, and other animal organisms, not alive, but well developed, never dreaming, however, that they had grown up there, precluded all access to any thing that could even sustain life, except moisture and infinitely attenuated light.

Light falling upon a material body is in part reflected, partly absorbed; and if the

atoms of that body be so arranged as to admit of it, a part will be transmitted. What becomes of the light which is absorbed? Sir John Herschel responds to the query, "It merges in the more general one, what becomes of motion? And the answer, on dynamical principles, is, that it continues forever. No motion is, strictly speaking, annihilated; but it may be divided, and the divided parts made to oppose, and, in effect, destroy one another."

Though that subtle element, ether, whose undulations give us the sensation we term light, probably pervades the densest material, yet it would seem that the ultimate atoms of some bodies are so arranged as to divide the vibratory motion, caused by a luminary, and cast the divided waves of ether against each other, in opposite directions, and with equal velocities, and so, as Herschel observes, they destroy one another. Hence, probably, the reason why a film of metal one thousandth of an inch in thickness will totally obstruct a ray of light, though the atoms of the metal easily change their relative position, giving it elasticity, while a diamond of one hundred times that thickness will transmit nearly all the light, though no sensible mobility exists among its atoms.

We hope that friend Bertolet will follow this interesting subject in other of its ramifications when he has leisure, for its consideration, either in an economical, intellectual, or moral point of view, perhaps, would not be irrelevant to the high aim of your interesting journal. It would be a waste of space in your columns for me to dilate upon its benefits in the vegetable or animal economy, as I could throw but very little light upon its mysterious operations, but would be pleased to learn from those whose facilities for scientific research enable them to show us the causes of phenomena that we every day behold, thereby enabling us to apply some of the laws that govern this wonderful agent, to the advancement of our noble art, with as much reliance as the astronomer does the law of refraction to the investigation of far-off worlds. The more we can combine intellectual with physical enjoyments, the more do we elevate our condition as men. And what, of all subjects, either of a material or immaterial nature, religion excepted, is better calculated to furnish intellectual pleasure than a contemplation of the vast, the magnificent system of suns, of planets, and of satellites by which we are surrounded; whose direct or reflected light, though diminished by inconceivable distance, reveals to us their being, their positions, and mutual relations. And little less is our admiration excited, when, through the same medium by which we behold the stupendous scale upon which the universe is built, we descend into the very minute among created things. Here, too, we behold beauty and order, as well as vitality and enjoyment, among beings so remote, that were it not for that simple law, the refraction of light, we should never have suspected their existence.

Exquisite indeed are the pleasures of vision, and very refined the intellectual enjoyments dispensed to us through the medium of light; and yet, if satisfied with these, we fall very much short of the blessing it was intended to confer.

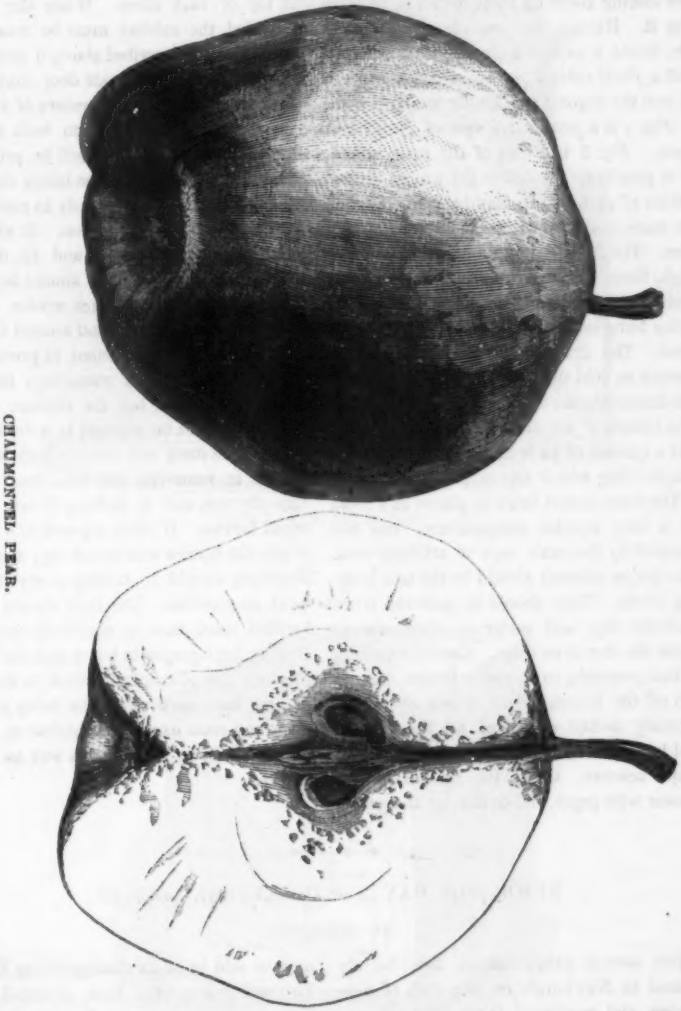
The contemplative mind, while absorbed in this beautiful theme, feels an impulse that lifts him upward to the great Source from whence emanate the fountains of light, and is wont to admire and adore the power, the wisdom, and goodness that spake into existence luminaries innumerable, and launched them on that boundless ocean of ether, whose tiny waves are not only essential to our very being, but delight our vision with all the varied, the gorgeous coloring of celestial and terrestrial nature.

[We are very much pleased to hear from "Novice" again. He has opened a very interesting subject indeed; but as it is intended for Mr. Bertolet, we must remain silent till he has answered these queries. We may remark, however, that the article of "Novice" contains a good deal of sound philosophy. Now, Mr. Bertolet, will you have the goodness to respond?—Ed.]

CHAUMONTEL PEAR.

BY THE EDITOR.

THIS is an old French Pear of variable quality; sometimes quite good, and at others very poor. It is a good winter cooking pear; it is seldom sufficiently melting to eat out of hand.



CHAUMONTEL PEAR.

Size, large. *Form*, irregular pyriform. *Skin* yellowish green, covered with russet, and often a red cheek. *Stalk*, about an inch long, inserted a little on one side, in a moderately deep, irregular cavity. *Calyx*, partially closed, set in a deep, coarsely ribbed basin. *Flesh*, rather dry, gritty, but sometimes sweet and aromatic. *Quality*, good. Season from November to March.

A FRUIT CABINET.

BY THE EDITOR.

This is the season when most persons who have a surplus of fruit, especially of grapes, are looking about for some means of preserving it. Having just seen in the hands of Dr. Grant a capital design of what we may call a *fruit cabinet*, we requested the use of it, and the request was kindly complied with.

Fig. 1 is a perspective view of the cabinet open. *Fig.* 2 is a view of the same closed. It is peculiarly adapted to the winter preservation of grapes. It may be made of pine, or more costly wood, as desired, or of any size. The design shows a cabinet four feet high, three feet wide in front, and two feet wide at the sides. The cover is movable, being hung on hinges, as is also the door in front. The drawers are to be made deep enough to hold the bunches without touching the drawer above; say from four to six inches. The bottom of the drawer is formed of slats laid a quarter of an inch apart. It is a very simple affair, which any carpenter can make.

The fruit cabinet must be placed in a room of a low, equable temperature; one not warmed by the sun's rays or artificial heat. The grapes selected should be the late keeping kinds. They should be gathered when perfectly dry, and under no circumstances while the dew is on them. Careful handling is indispensable, so as not to bruise them or rub off the bloom. Each bunch should be carefully looked over, and all the decayed and imperfect berries removed with a pair of grape scissors. Cover the bottom of the drawer with paper, and on this lay the grapes so that the bunches will not touch each other. The bunches must not, of course, be placed on top of each other. When the drawers are filled, the cabinet must be removed to such a room as described above, if not already there. The top and side door may remain partly open till the temperature of the room gets to be quite cool, when both must be tightly closed; though it will be prudent to to close them at nights even before this. The cabinet is to be opened only to remove the fruit or examine its condition. It should be looked over occasionally, and all decaying berries removed. If there should be danger of freezing at night, a thick woolen blanket should be thrown over and around the cabinet, which will be sufficient to prevent any ill consequences. On warm days the room may be ventilated, but the cabinet, at such times, must not be exposed to a draft of air. The cabinet itself will receive sufficient ventilation in removing the fruit from time to time for use, and in looking it over for decayed berries. If often exposed to a current of air, the berries will shrink up; the object, therefore, should be to keep every thing as quiet as possible. The fruit should not be handled more than is absolutely necessary. Having kept grapes in boxes and drawers on precisely the principle involved in this cabinet, we have no doubt of its being a convenient and most excellent contrivance. Winter pears may be kept in this way as well as grapes.

NEWBURGH BAY HORTICULTURAL SOCIETY.

BY THE EDITOR.

The annual exhibition of this Society opened at Newburgh on the 29th of September, and continued three days. It was a gala time for the people of Newburgh. We have seldom seen an exhibition in which the fruit was so uniformly good; and this may be said to be its distinguishing feature. This was not to have been expected at the end of a season so generally unfavorable to the perfection of the fruit crop; but fruit growers around Newburgh pay special attention to their fruit, and no doubt gave

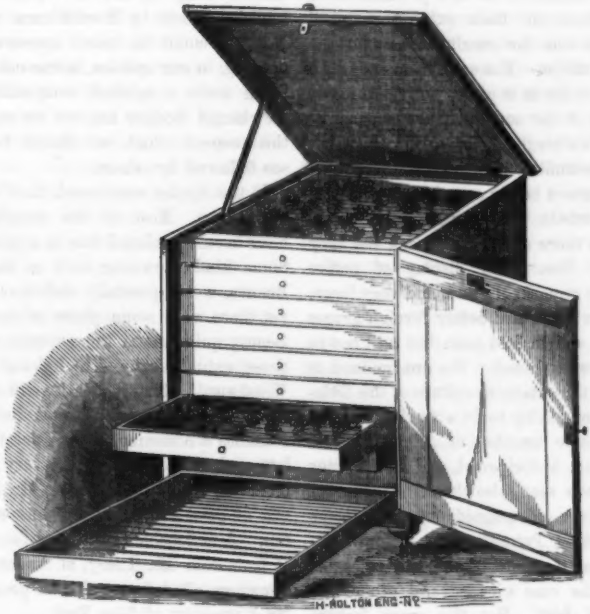


Fig. 1.—Fruit Cabinet, open.

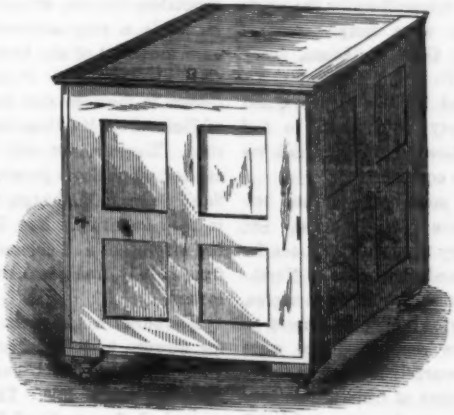


Fig. 2.—Fruit Cabinet, closed.

particular attention to the production of fine specimens for their exhibition; at all events, this was the result we saw on the well-filled tables. The exhibition room is a good one, as far as it goes; but there is not enough of it for such displays as can be made in Newburgh.

Notwithstanding a bad season, the present show was a better one than that of last year, as a whole. There were not so many apples, but there were more pears, and they were very fine. The display of native grapes was remarkably fine, and very large. There were more and better foreign grapes than were shown last year, but still not so many as we expected. We are inclined to think that the extensive culture of the Delaware has something to do with this. Large and handsome bunches of Allen's Hybrid were shown, well-ripened, and much finer than we have seen elsewhere. Clusters of Union Village of magnificent proportions were sent from Poughkeepsie, but were excluded from competition by the rules, as was also the case with several other fine samples of fruit. But the great feature among the grapes was the Delaware, which was shown in great profusion, and in very perfect condition. Some idea may be formed of the quantity, when we state that there were some twenty competitors for the single dish alone. There were samples also of Catawba, Isabella, Concord, Diana, (very fine,) Creveling, To-Kalon, Garrigues, Elsingburgh, Hartford Prolific, Rebecca, and others. The Society has reason to feel proud of its fine show of grapes, which we have seen nowhere equaled.

The apples were more numerous and better than could have been expected. Dr. Shelton made a very fine show, but not for competition. A handsome plate of Northern Spy took the first prize for table apples, and a plate of Newtown Pippins, almost as good, received the second. There were many other plates scarcely inferior to these. For the best collection of fruit the Society offered a splendid fruit piece, painted in oil by Mr. Tice. It was awarded to Mr. Downing, and could not have fallen into better hands. Why can not more prizes of a like kind be offered by Horticultural Societies? Nothing could be more appropriate, and nothing, in our opinion, better calculated to bring forth a spirited competition. The Newburgh Society has set an example, in this respect, which we should be glad to see followed by others.

If the Apples were good, the Pears were even finer. Most of the samples would have been considered fine in a good season. Some kinds, however, such as the Flemish Beauty, were generally deficient in size; yet there were some plates of the Flemish Beauty quite up to the average, especially those exhibited by Mr. Palmer and Mr. Woodward. The Seckel, Beurré Gris d'Hiver Nouveau, Beurré d'Anjou, Beurré Diel, Paradise d'Automne, Belle Lucrative, Bartlett, and some others, were very large and fine. The Wilmington, from Mr. Downing, was of good size, and in all respects delicious. A noticeable feature was the collection of fruit from Mr. Leroy, of Angers, France, elsewhere alluded to. It was presented by Mr. Carpenter, of New York.

The display of Vegetables was large and very good. We must again compliment Mr. Findlay for the good taste shown in the arrangement of his vegetables. Good vegetables like his, arranged with taste, can be made a very attractive feature; and even those not of the best quality will look all the better for it. Potatoes were quite a feature in the vegetable department. A lot of Flukes from Mr. Downing were very beautiful. They are not only beautiful, but one of the best potatoes grown. Carrots, Beets, Salsify, Onions, Cabbage, etc., were shown in good condition. Egg Plants were large, but mostly not well colored. The best were from a lady, and seem to have been overlooked.

Newburgh would seem not to be famous for flowers, to judge from its exhibitions. The display of plants was small last year, and even smaller this. Those shown, however, had the merit of being very good. The collection of ornamental-leaved plants from Mr. Brinckerhoff was very fine. There

ought to have been at least half a dozen such collections. The cut flowers, bouquets, and designs were all very good. We would suggest to those who exhibit bouquets, that they take Mrs. Downing's style as a model. We never pass a bouquet without hearing a thousand sweet little voices crying to us to set them free. We implore you, by all that is beautiful, not to put these dear little creatures in such vile bondage.

Before closing, we wish to offer a few words of advice in regard to horticultural exhibitions. It is a matter that concerns exhibitors quite as much as the society. We allude to the want of system or arrangement in placing articles for competition. Each class of articles should be placed by itself on the tables; for example, all the entries of single plates of fruit should be placed side by side; and so of collections. The judges can then make their examinations and comparisons with some degree of satisfaction, and with a fair hope of making just decisions. With the ordinary arrangement they can do nothing of the kind, however painstaking and careful they may be. We know that some exhibitors insist upon having their articles all together; but in this they commit a great mistake, and one in which they should not be indulged. When a man exhibits, he must comply with the rules. On the present occasion the articles were scattered about a large room very promiscuously. We were one of the judges on fruit, and we have hardly yet recovered from the fatigue of racing about the room to find the articles entered for competition. One of our companions broke down completely, and towards the last we had to request that the articles might be picked out for us. We should not have minded the labor so much, but the difficulty, if not impossibility, of properly comparing samples of fruit a hundred or more feet apart, was very annoying. Now look at some of the results. In the evening we returned to the exhibition, and spent an hour in looking about. In so doing, we discovered several fine lots of apples, pears, and grapes that the judges had not seen at all. One exhibitor had divided his collection of grapes into two parts, with other fruit between, and in so doing lost the first prize; but we can not say that we feel much sympathy for him, though mortified at the result. These oversights are in no respect the fault of the judges; they are mainly the fault of the exhibitors themselves. We mention these things in order that the Newburgh and other societies may profit by them.

We subjoin a list of prizes:

FRUITS.

For best and most interesting display, Charles Downing. Painting by Tice.

Second best, O. S. Hathaway. Silver Goblet.

Third best, Roe Hasbrouck, $5.

For best basket of fruit, James H. Ricketts, $5.

Second best, Thomas H. Roe, $3.

Third best, D. Smith, $2.

For best collection of apples, 19 varieties, W. H. Armstrong, $8.

Second best, 15 varieties, W. Johnson, $5.

Third best, 12 varieties, N. Barnes, Jr., $3.

For best dish of apples, Northern Spy, Alexander Palmer, $3.

Second best, Newtown Pippin, W. H. Armstrong, $2.

For best collection of pears, 37 varieties, Henry W. Sargent, $8.

Second best, 12 varieties, Mrs. Wm. Kent, $5.

Third best, 16 varieties, Wm. A. Woodward, $3.

For best dish of pears, Seckel, Mrs. Wm. Kent, $3.

Second best, Beurré Gris d'Hiver Nouveau, Henry W. Sargent, $2.

For best collection of hardy Grapes, 10 varieties, E. H. Clark, $10.

For best 5 varieties of native grapes, D. Brinckerhoff & Co., $8.

Second best, Alexander Palmer, $5.

Third best, James H. Palmer, $3.

For best dish of hardy grapes, Delaware, John Hoag, $6.

Second best, Allen's Hybrid, John Hoag, $3.

Third best, Delaware, Wm. Johnson, $2.

For best 5 varieties of grapes, grown under glass without artificial heat, Thomas Wade, $8.

Second best, Wm. R. Green, $6.

For best dish of peaches, Late Admirable, Mrs. Wm. Kent, $5.

Second best, Benjamin Carpenter, $2.

For best quinces, Mrs. Wm. Kent, $3.

Second best, Thomas Buckmaster, $2.

For best Cranberries, Geo. W. Cornell, $3.

For best Muskmelons, William D. Humphries, $3.

Second best, Wm. A. Woodward, $2.

Best Watermelons, Alexander Michie, gardener to Col. Howland, $3.

Second best, Thomas Turnbull, gardener to C. M. Wolcott, $2.

VEGETABLES.

For best collection, Thomas Ayres, gardener to Wm. L. Findlay, $12.

Second best, Thomas Turnbull, gardener to C. M. Wolcott, $8.

Third best, Alexander Michie, gardener to Col. Howland, $6.

For best beets, Thomas Ayres, gardener to W. L. Findlay, $2.

Best Drumhead Cabbage, Thomas Buckmaster, $2.

Best Cauliflowers, Alexander Michie, gardener to Col. Howland, $2.

Best blanched Celery, Wm. D. Humphries, $2.

Best Carrots, J. H. Moore, $2.

Best Egg Plants, Thomas Turnbull, gardener to C. M. Wolcott, $2.

Best peck of Potatoes, H. T. Pierce, for White Mercers, $2.

Best Squashes, Wm. D. Barnes, for Boston Marrow, $2.

Best Tomatoes, J. H. Moore, $2.

FLOWERS.

Premium for pot plants not awarded, as it was understood to be offered for flowering plants only, and did not include the fine collection of variegated-leaved plants exhibited by D. Brinckerhoff & Co.

For best large bouquet, for vase or parlor, Thomas Ayres, gardener to Wm. L. Findlay, $5.

Second best, D. Brinckerhoff & Co., $3.

Third best, Mrs. Wm. Kent, $2.

For best hand bouquet, Wm. D. Humphries, $3.

Best Dahlias, 26 varieties, D. Brinckerhoff & Co., $2.

Second best, Thomas Turnbull, gardener to C. M. Wolcott, $1.

For best Roses, D. Brinckerhoff & Co., $2.

Second best, J. H. Ricketts, $1.

For best Asters, Thomas Ayres, gardener to W. L. Findlay, $2.

For best Fuchsias, 24 varieties, William D. Humphries, $2.

Second best, 30 varieties, D. Brinckerhoff & Co., $1.

For best Verbenas, 48 varieties, D. Brinckerhoff & Co., $2.

For best ornamental arrangement of flowers, L. W. Gardiner, $2.

Second best, Wm. D. Humphries, $1.

GRAPE REPORT FROM WATERLOO, N. Y., LATITUDE 43° N.

BY F C. BREHM.

I HEREWITH send you my report on native grapes for 1863. I would also add a few remarks on the state of the weather for 1863. The weather for the Grape was very favorable until about the 10th of July, the vines at that time being two weeks in advance of 1862, and I was indulging in the hope of an early vintage, when my hopes were soon dispelled with terrific showers of rain, accompanied with a hot and damp atmosphere, the thermometer for nearly six weeks standing at 90° in the shade, and heavy showers of

rain nearly every other day from the 10th of July to the 1st of September, producing mildew, leaf blight, and rot in abundance. Under these conditions were my grapes grown, and I hope the readers of the HORTICULTURIST may be benefited by this report, as the statements herein made are correct, and were taken down from day to day, without any guess work, and can therefore be relied on. They are placed in the order as they ripened.

1. *Hartford Prolific.* Leaf May 12. Flower June 17. Color Aug. 17. Ripe Sept. 1. Quality poor. Drops badly from bunch after being picked a day or two. Never ripens or becomes sweet to the center. Allowed some to hang till Oct. 1. Although the berries were so ripe that they shriveled up, still the pulp was hard and sour.

2. *Delaware.* Leaf May 17. Flower June 17. Color Aug. 21. Ripe Sept. 11. Mildew on leaf Sept. 5, light. Quality first best. This beautiful grape can not be recommended too highly for its earliness, hardiness, good quality of the fruit, and its lateness in flowering, thereby escaping late spring frosts, and its resistance to mildew, ripening its fruit without the loss of a berry by rot or mildew.

3. *Rogers's Hybrid, No.* 19. Leaf May 10. Flower June 10. Color Aug. 21. Ripe Sept. 18. Leaf blight light. Quality good, producing large clusters and berries, resembling Black Hamburghs. Would recommend it to grape growers as a first class black grape, being hardy, ripening early, and good quality, with large size of berries and bunches.

4. *Diana.* Leaf May 12. Flower June 13. Color Aug. 29. Ripe Sept. 20. Quality first best, or next to Delaware. This was the healthiest variety out of thirty-two; never mildewed or suffered the loss of a berry by rot.

5. *Allen's Hybrid.* Leaf May 20. Flower June 19. Color Aug. 29. Ripe Sept. 20. Quality best. Tender, without any pulp, when ripe. No doubt the best white grape we have. Mildewed badly on leaf, but ripened its fruit perfectly.

6. *Rebecca.* Leaf May 17. Flower June 18. Color Aug. 27. Ripe Sept. 20. Quality best. Mildewed lightly on leaf.

7 *Union Village.* Leaf May 14. Flower June 15. Color Aug. 27. Ripe Sept. 25. Black rot lightly Aug. 3. Quality good.

8. *Rogers's Hybrid No.* 4. Leaf May 13. Flower June 17. Color Aug. 22. Ripe Sept. 25. Quality moderate, or as good as Isabella. Drops its foliage before fruit is perfectly ripe.

9. *Concord.* Leaf May 12. Flower June 19. Color Aug. 26. Ripe Sept. 25. Quality poor, or like Hartford Prolific. Not worth cultivating by the side of Delaware, Diana, and Rogers's Hybrid No. 19. Leaf blight lightly.

10. *Isabella.* Leaf May 12. Flower June 14. Color Aug. 29. Ripe Sept. 28. Quality moderate. Leaf blight badly. Failed to set its fruit well, the clusters being filled with small green berries the size of peas and larger. Not fit for cultivation any longer where Delawares can be had.

11. *Clinton.* Leaf May 17. Flower June 10. Color Aug. 27. Ripe Sept. 28. Quality said to be good for Claret wine. Not fit for table use.

12. *York Madeira.* Leaf May 20. Flower June 19. Color Aug. 29. Ripe Sept. 28. Quality not good for table. Poor bearer. May do for wine.

13. *To-Kalon.* Leaf May 17. Flower June 18. Color Sept. 5. Ripe Sept. 28. Black rot light Aug. 20. Quality best. This is the best black grape in quality that I am acquainted with. Its only fault is liability to rot in some seasons.

14. *Clara.* Leaf May 19. Flower June 29. Color Sept. 20. Ripe Oct. 8. Mildew on Leaf Sept. 15. Quality good, or next to Rebecca and Allen's Hybrid.

15. *Anna.* Leaf May 17. Flower June 16. Color Sept. 17. Dry rot Aug. 29. Not perfectly ripe yet. Berries dropping badly from bunch. Not fit for cultivation here.

16. *Catawba* Leaf May 17. Flower June 19. Color Sept. 12. Ripe Oct. 12. Rotting badly.

The following varieties have not matured

their wood this season: Isabella, Catawba, Clara, Cuyahoga, Rebecca, and Union Village; and unless well protected this fall by laying down and covering well with earth, will be found frozen next spring.

[We are much obliged to you for this model report. It is admirably arranged. We are convinced that you have not got the true York Madeira. That is a grape of good quality, but a poor bearer. Yours is not only poor, but it does not come in in the right place. Though a good grape, one vine is enough for any collection.—Ed.]

THE HYACINTH IN ROOMS.

BY THE EDITOR.

As the season for planting the Hyacinth is not yet past, a few hints as to the best mode of growing it may be acceptable to some of our readers; and these may be taken as an answer to one of our correspondents.

The best soil for the Hyacinth is one that is light, porous, and rich. If not already light and porous, it may be made so by the addition of sand. The best manure is that which is old and well decayed. The Hyacinth is grown in water, in moss, in the garden, and in pots.

In Water.—When grown in water they are placed in glasses made for the purpose. There are two styles of glasses, one being long, and the other short, with an expanded bottom. The latter are much the prettiest. A valuable adjunct is Tye's support, which is placed in the rim of the glass, and holds the leaves and flower stalk firmly in their place. Having procured glasses, fill them with soft rain water, in which put two or three small pieces of charcoal, which will obviate the necessity of changing the water as often as would otherwise be necessary; besides, the bulbs will grow and bloom better.

The bulbs to be grown in water should be perfectly sound; indeed, the best bulbs should be selected for the purpose. Now put a bulb in the glass, and hold it up to see that the bottom of the bulb does not touch the water. If it does, some must be poured out. There must be an interval of about a quarter of an inch between the bottom of the bulb and the surface of the water. Next put the glass for a week in a cool room, where the sunshine will not reach it. The water will evaporate, and a few drops must be added every day or two. In doing this, put the water in at the side of the bulb, without removing it.

When the roots are a couple of inches long, the glass should be removed to a window, where it will get plenty of light. The water should be changed about once a week. We have grown them, however, without changing the water at all; but the safest plan is to change it. This may be done without removing the bulb from the glass, by simply placing the fingers on the bulb and tilting the glass till the water all runs out. It is filled by pouring the water in at the side of the bulb. The roots are often very much broken by removing and replacing them. When the flowers are pretty well expanded, the glasses may be set on the mantle, the center table, or wherever desired.

When the bulbs have done blooming, they are usually thrown away, as they are seldom good for any thing afterwards. They may, however, be buried a few inches in the garden, and those that show any degree of plumpness when when the foliage has decayed may the next fall be planted in the open ground, with a faint hope of getting a few weak blooms from them.

In Moss.—A better mode than the preceding is to grow the Hyacinth in moss, since the bulbs bloom better and ripen better. The moss should be dried, and then rubbed fine. Pots may be used, or baskets, the latter being most ornamental. Two, three, or more bulbs may be placed in the basket, according to its size. They should be covered

about an inch, and the moss pressed firmly about them. Set the baskets aside for a week or ten days in a cool room, and then bring them to the light. The baskets will look very pretty suspended near the window. They must be watered occasionally, as the moss gets dry. In watering, the baskets should be held over a pail till the water has drained off, or the drip will soil the carpet. In the spring the bulbs may be turned into the garden, where some of them will ripen tolerably; but it is not often that bulbs grown in water or moss are worth so much trouble.

In Pots.—This is by far the best mode of growing them in-doors. The soil should be light and rich. A good compost may be made of one half garden loam, one quarter muck, one-eighth sand, and one-eighth old manure. In the absence of these good soil from under a sod, with a little sand added to it, will answer the purpose very well. Pots four inches in diameter are the most suitable. Place a potsherd over the hole in the bottom, and then add an inch of broken charcoal for drainage. Fill the pot about two thirds with compost, press it down firmly without packing it, and then set in the bulb, with a little sand directly under the bottom of it. The bulb must be set so that the top will be covered half an inch. Next fill up the pot, and press the soil around it. When all is done, the surface of the earth should be about half an inch below the rim of the pot, with the top of the bulb half an inch below the surface of the earth.

The pots may be left out of doors in a shady place till the weather gets quite cold, when they must be housed. A part of them may be retarded by putting them in a cool cellar, from which they can be taken as wanted; but in any event they must be brought to the light as soon as they begin to grow. They should be placed as near as possible to the light, and the pots turned occasionally to prevent the plants from being drawn on one side. The temperature of the room should not be too high. At first the pots should be watered moderately, but when the plants are in bloom water may be given freely, but not so as to sodden the soil. In the spring the bulbs, with the ball of earth, may be turned into the garden, where most of them will mature sufficiently to be planted out of doors the next year.

HORTICULTURE ON THE HUDSON RIVER.

BY W. A., OF POUGHKEEPSIE.

By some oversight, or strange combination of circumstances, the annual Horticultural Exhibitions of the Societies at Hudson, Poughkeepsie, and Newburgh, all occurred the last week in September. They even overlapped each other, a portion of their shows being held on the *same day*. This, for three neighboring cities, to say the least, was peculiarly unfortunate, for it prevented many from attending them all. It also shut out from each, beautiful specimens of each other's fruit and flowers.

The season has been singularly unpropitious, in this portion of the valley of the Hudson, for a successful horticultural show. An early frost destroyed all the peach blossoms. Not a peach was on the tables at the exhibition in this city, or at Hudson. At Newburgh they were meager, both in number and size. Then, again, it has been an unproductive year for pears. Seldom has the crop been so small, or the fruit so inferior. Lastly, the out-door grape has proved a failure to a large extent. Some regular cultivators have half, some two-thirds of a crop. Some carefully cultivated trellises, within range of my observation, have almost totally failed to ripen. They will scarcely yield any really mature fruit this fall. Mildew has prevailed extensively, with a ruinous blight in every direction.

It is but truthful to remark, that the

Poughkeepsie Exhibition was nearly a failure. The show of fruits and flowers, and even vegetables, was small compared with previous years, and a few of the former were inferior in kind and quality. Some of the reasons have been given above. Still another reason is a serious one, and is as applicable to other societies as to our own in Poughkeepsie. *It is the want of interest among the members.* Nearly seventy names are on the records; while the actual contributors to the Horticultural show scarcely exceeded a dozen! Yet, many of the non-contributors were present, and invidiously remarked, *they* had better specimens on their own grounds. "They *regretted* they had not sent them for exhibition." Acting upon this suggestion, at a more recent meeting of the Society, a resolution was passed, requiring every member to add "something" to the semi-annual shows, in default of which, he must pay $1 into the common treasury. As an instance of this neglect, a wealthy member of the club sent choice fruits and vegetables to the Horticultural Exhibition in New York, nearly eighty miles. He had *nothing* at the show in this city, which was held less than two miles from his residence! It is from such a cause mainly, that many local societies languish. It is often at the expense of small associations, that great horticultural shows flourish.

But there were some features of the exhibition here, which were worthy of all praise, and quite equal to any thing seen at the fine Newburgh show. No exhibitor had over thirty varieties of apples or pears; but most of them had unrivaled specimens of each. They were beautiful in size and complexion, and most of them of exquisite quality. The out-door grapes attracted more than usual attention, as this department of horticulture is extending in every direction, and among all classes of society. Mr. Uhl, a merchant of this city, has a lot in rear of his store, on Main Street, some 150 feet deep, and 19 feet wide. It is more or less inclosed by outbuildings, and may be called a warm, if not a shady inclosure. On the sides of this lot, he has grape trellises, and running through its center is still another trellis, 130 feet long and nearly 20 feet in height. Some twelve feet from the ground, a scaffolding runs the whole distance, from whence he can trim and prune the upper portion of his vines at his leisure.

About six years since, Mr. Uhl planted his vines under the directions of a professional gardener, who pruned and trimmed them for two or three years. He was an entire novice in the beginning, but having taste and an observing eye, he then took charge of his own vines, and his success has been eminent. It shows what can be accomplished in a small inclosure, guided by judgment, and with the use of energy in the odd hours a diligent man can abstract from his daily business. Mr. Uhl's grapes excited great admiration at Newburgh. At the show in this city, he obtained a premium for the best and largest collection, and also, additional premiums for the finest Isabella, Diana, Clinton, Union Village, and Montgomery. Other gentlemen, Messrs. Young, Myers, Vincent, and Corlies, had beautiful specimens from their extensive and cultivated grounds, but Mr. Uhl, from the little inclosure in rear of his city store, excelled them all.

The grapes exhibited by Mr. Buckingham from under glass were exquisite bunches, while the trellises in pots, bearing fruit, attracted much attention. Mr. Girard, another amateur grape grower, presented the Society, free from competition for prizes, with 17 varieties of choice specimens from under glass, which won the highest compliments from the officers and other competent judges. The floral part of the exhibition was very beautiful, so fine a collection of green-house plants and other flowers not often having been seen in this city.

At a meeting of the Horticultural Club since the fair, although many of the members had extensively failed in their duty as exhibitors, and the show was not up to former years, it was wisely determined to *persevere.* The receipts met the expenditures, and the number of new members, with increasing influence and zeal, is large and encouraging. A question of interest was discussed at the

meeting, whether separate premiums should not be offered for pears from "dwarf," and from "standard" trees. Many amateurs have only the latter, while the former give larger and better fruit, to the great disadvantage of the "standard bearers." It was much regretted you did not extend your visit to Poughkeepsie as well as Newburgh. We shall not excuse you another year.

List of Premiums.

FRUIT.

Benj. H. Hart, best collection, $2.

Second premium, E. Marshall, $1.

Best ten varieties of winter apples, A. L. Allen, $1.

Best seedling apples, C. R. C. Masten, $1.

Largest and best collection, L. M. Vincent, $3.

Second best and largest collection, Nathan Gifford, $2.

Best five Duchesse d'Angoulême Pears, Luther Elting, 50c.

Best five Seckel Pears, Luther Elting, 50c.

Best five Napoleon Pears, Luther Elting, 50c.

Best five Beurré d'Anjou, Luther Elting, 50c.

Best five Flemish Beauty Pears, S. M. Buckingham, 50c.

Best five Louis Bonne de Jersey Pears, C. M. Pelton, 50c.

Best five Beurré Bosc Pears, C. M. Pelton, 50c.

Best five Lawrence Pears, C. M. Pelton, 50c.

Best five Urbaniste Pears, Jacob B. Jewett, 50c.

Best five Swan's Orange Pears, Jacob B. Jewett, 50c.

Best five Vicar of Winkfield Pears, Jacob B. Jewett, 50c.

Best five Beurré Diel Pears, Dr. Beadle, 50c.

Best five Beurré Clairgeau Pears, E. Marshall, 50c.

Best five Glout Morceau Pears, E. Marshall, 50c.

Best five Winter Nelis Pears, George Dewint, 50c.

Best five Buffum Pears, W. Atwill, 50c.

Best five Dix Pears, Josiah Williams, 50c.

Best three Watermelons, George M. Velie, very excellent article, $1.

Second best, George Dewint, fine flavor and rich, particularly the Ice Cream Melon, 50c.

Best Muskmelon, T. L. Davies, per gardener, Mr. Pollard, a well-ripened, fine-flavored article, $1.

Best Quinces, L. M. Vincent, beautiful and perfect specimens, $1.

Second best Quinces, Luther Elting, very handsome specimens, 50c.

Lot exhibited by Mr. W. Atwill deserves attention as being healthy, golden color, and fruit fine quality.

Lot exhibited by M. Vassar, Jr., deserves notice, as some eight or ten were exhibited on a small branch, one foot in length.

Lot exhibited by James Brooks, Plums, one variety Lawrence Plums, very perfect article and fully ripened fruit. Being only one sample, not entitled to premium.

Mr. Abraham Wiltsie, after the opening of the Fair, showed some Quinces of extraordinary size. There was a cluster of eight very large ones, all growing on a branch one foot long.

The best and largest collection of Grapes, Stephen Uhl, $2.

Second best, L. Elting, $2.

Best Isabella, six clusters, S. Uhl, 50c.

Best Diana, six clusters, S. Uhl, 50.

Best Concord, six clusters, H. L. Young, 50c.

Best Clinton, six clusters, S. Uhl, 50c.

Best Delaware, six clusters, C. M. Pelton, 50c.

Best Catawba, six clusters, J. Corlies, 50c.

Best Union Village, six clusters, S. Uhl, 50c.

Best Montgomery, six clusters, S. Uhl, 50c.

Best Rebecca, six clusters, H. L. Young, 50c.

S. Uhl, very fine Anna and Northern Muscadines.

L. M. Vincent, superior Delaware and Union Village.

Mr. Bentill, Concord and very fine Muscadine.

L. Elting, fine specimens of Anna, Rebecca, Catawba, and Concord.

H. L. Young, remarkably well-grown Diana, Delaware, and Rebecca.

J. Corlies, superior specimens of Catawba, Montgomery and Isabella.

A. Hasbrouck, good Montgomery.

C. M. Pelton, superior Clinton.

Mr. Ambrose Smith, of Modena, Ulster county, exhibited the Ontario grape, resembling in appearance the Union Village.

Mr. Caywood, of the same place, exhibited bunches of Trowbridge's large grape; fine specimens.

It might be remarked in regard to the Union Village grapes of Mr. Uhl, that he exhibited a branch producing in a space of less than one foot in length, three bunches of fruit weighing together 3 lbs. 2 oz. One bunch was nine inches long, not counting the stem, but from the top berry to the bottom of the cluster itself, and very compact.

Grapes under Glass, S. M. Buckingham, per Robert Gardiner, gardener.

WINES AND CIDER.

Best sample of Grape Wine, Jacob Corlies.

Best sample of other Domestic Wines, S. M. Buckingham.

Best sample of Cider Wine, M. Vassar, Jr.

One bottle of superior Currant Wine presented to the Association by Miss Forbus, made in 1825, being thirty-eight years old, excited considerable interest, and was found improved in flavor by the keeping.

VEGETABLES.

Best collection of Vegetables, to T. L. Davies, (J. Pollard, gardener,) $3.

Second best, Theo. Gregory, $1.

Best six heads of Celery, William A. Davies, (Horrocks, gardener,) 50c.

Best twelve Tomatoes, G. T. Rider, 50c.

Best three Purple Egg Plants, G. C. Burnap, 30c.

Best half peck Lima Beans, William A. Davies, (Horrocks, gardener,) 50c.

Best half bushel Table Potatoes, Edward Burgess, 50c.

Best three Hubbard Squashes, Dr. E. Beadle, 50c.

Best three Boston Marrow Squashes, M. A. Notbeck, 50c.

Best peck Sweet Potatoes, A Wilcox, 50c.

Best six Table Beets, J. B. Jewett, 25c.

Best six Carrots, S. M. Buckingham, (Robert Gardiner, gardener,) 25c.

Best six Parsnips, S. M. Buckingham, (Robert Gardiner, gardener,) 25c.

Best six Flat Turnips, Wm. A. Davies, 25c.

Best half peck Onions, Dr. E. L. Beadle, 25c.

The greatest variety of Squashes, not including the first two classes, S. M. Buckingham, $1.

DISCRETIONARY PREMIUMS.

For a fine specimen of Chicory Plant, to H. D. Myers.

For superior collection of Winter Squashes, Rev. E. N. Chandler, John M. Beutell, and Benj. Hart.

For two new varieties of Squash, named respectively Japan and Smyrna, David H. Barnes.

GREEN HOUSE PLANTS AND FLOWERS.

Best collection of Green House Plants, Joseph Pollard, gardener for Mr. Thomas L. Davies, $4.

Lot No. 34, very noticeable for its choice collection of strictly Foliage Plants, $4.

Best Floral Design, Mrs. Edward Marshall, $3.

For the second best, to Miss Susan Myers, $3.

Best collection of Cut Flowers, J. Pollard, gardener of Mr. Thomas L. Davies, $2.

Second best, to David Hunter, gardener of Mr. Stuyvesant, $2.

Best collection of Dahlias, to Mr. Edward Marshall, $1.

Second best collection, to Mr. Samuel Curry, 50c.

Best collection of Roses, to the gardener of Mr. T. D. Davies, $1.

Second best, to D. Hunter, gardener of Mr. Stuyvesant, 50c.

Best collection of Fuchsias, to the gardener of Mr. Stuyvesant, $1.

Best collection of Verbenas, Mr. Edward Marshall, 50c.

A very prettily composed Bridal Bouquet and Wreath, exhibited by Mr. Edward Marshall, certainly merits an appreciative notice, as a graceful attempt to exhibit flowers in such a manner as to suggest their gentler uses and associations. Might not more be accomplished in this direction?

Among the beautiful Bouquets that graced the fruit tables should be noticed one arranged by Miss Martha Buckingham, and another by George Hindinlang, florist at Mr. Marshall's nursery.

Mrs. E. L. Beadle furnished during the continuance of the exhibition a fine collection of Roses and Dahlias, also a beautiful Bouquet, for which the club feel much indebted.

MISCELLANEOUS ARTICLES.

Mr. Sedgwick's Garden Tools, in great variety, and all manufactured in our city, were objects of much attention.

The Honey exhibited by Carpenter and Miller, too late for a premium, was very white and beautiful.

[We did purpose visiting Poughkeepie, and should have done so, if, as you express it, the exhibitions had not "overlapped" each other. We are much indebted to you for this account of your exhibition, to which we have appended the list of prizes awarded. We hope the members of the Society, as well as the citizens of Poughkeepsie, will profit by your criticisms. It is not in the least complimentary to them that they have not spirit and pride enough to give a generous support to the Horticultural Club. It was very different at Newburgh. Mr. Uhl's grapes at Newburgh were remarkably fine. The Club must strive on till it makes its mark.—Ed.]

EDITOR'S TABLE.

To Contributors and Others.—Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to Mead & Woodward, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "The Horticulturist."

Bulbs.—Messrs. Thorburn, of New York, will please accept our thanks for a package of very choice Hyacinths, &c. The bulbs are sound, and as fine as can be.

Death of Dr. Massie.—We have received the painful intelligence that our correspondent, Dr. Massie, died suddenly of congestive chills at Toronto, while on a pleasure party with his family. Under the assumed name of "El Medico," he wrote many articles for the Horticulturist, which will be long remembered for their usefulness and polished style. He was an enthusiastic amateur, and devoted a large portion of his leisure moments to the cultivation of the vine. He will be sadly missed from the circle of our correspondents, for his articles were highly prized. We expect a friend to furnish a sketch of his life, and therefore only allude to his death briefly. We can not help feeling that we have lost one of our best friends. He, however, has only "gone up higher."

The Penn Pear.—We are indebted to Rev. Mr. Buel for specimens of this pear. It is very juicy, sweet, and tender, and we are much pleased with it. It is figured and described by Mr. Downing in a former number.

Plant Show at Mr. Bridgeman's.—Mr.

Bridgeman recently had a free exhibition of plants at his green-houses in New York, which proved to be very interesting and successful. Ornamental-leaved plants figured largely. There were fine specimens of Pandanus, Caladiums, Begonias, Marantas, etc., besides a large collection of Ferns, Gladioli, Hanging Baskets, and many other interesting objects. The number of visitors was large, and we have no doubt the exhibition *paid*, as the saying is.

Green's India-rubber coated Paper.—Mr. Fuller has left on our table samples of this paper, with which we are much pleased. The inventor probably had no such idea in his mind, but it is nevertheless well adapted for wrapping up plants, cuttings, &c. It is very much like oiled muslin, and is a cheap substitute for it, a sheet 24 by 36 inches costing only 15 cents. It is water proof, and sufficiently stout for horticultural purposes. We consider it a very useful article.

Castor Oil Pomace for Moles.—The mole, in many places, is a pest that is unendurable. Some certain and easy means of getting rid of him will be regarded as an inestimable boon. This may be done, an amateur friend assures us, by the use of castor oil pomace. We have not tried it sufficiently to give it a thorough test, but we have the most implicit confidence in the assurance of our friend, who says that he has used it for many years with uniform success, driving the moles entirely from his place. The run of the mole is to be opened, and some of the pomace placed in it. The pomace has a very offensive smell, and is supposed to act by diffusing its strong odor through the run. It should not be placed too near plants, as it is very acrid, and will destroy them. Castor oil pomace is also a very good fertilizer, being rich in ammonia, and may be used with advantage as a top dressing composted with muck. It may be had of Mr. Lane, at 41 Park Row, in either large or small quantities.

Fair of the American Institute.—The late Fair of the American Institute was held at the Academy of Music, a building, we are compelled to say, every way unfitted for the purpose. Almost every city of any pretension has one building at least somewhat suitable for public exhibitions; New York has nothing of the kind. The Institute has been talking for several years of erecting a building adapted to this purpose, and we know of no better investment of its funds. We would suggest to the Board of Trustees that now is the time to do it.

The Horticultural department is the only one that has any special interest for our readers. The other departments were as well represented as usual; but the absence of motive power for driving the machinery detracted much from the interest. The display of Apples and Pears was large and fine, and the specimens much better than we expected to find them. The best new Pear that we saw was the Wilmington. It will rank among the best, being melting, juicy, sweet, and aromatic. It was shown only by Mr. Downing. One of the most interesting lots was a large collection of Apples and Pears from Mr. André Leroy, of Angers, France. The specimens were large and handsome, and mostly in fine condition. We believe this is only the second time that a European has exhibited at our fairs. We had no opportunity of testing the quality of them, which we the more regretted, since not a few were new kinds. Specimens of these have since passed into the hands of Mr. Downing, at our suggestion, and they will therefore be heard from. We may say, however, that our own fruit does not suffer by comparison, so far as appearance is concerned. Mr. Leroy deserves special praise for his enterprise. We hope this will not be the last time in which he is represented.

The display of grapes, both native and foreign, was rather meager, and not as good as they should have been. The Delawares were ripe, and very fine; but there were few of them. The Concord, Hartford, Adirondac, and some Isabellas grown in a yard, were also ripe. The bunches of Adirondac were much the best that we have seen of this grape. It is a sweet and very good grape, but not vinous. A day or two after the

prizes were awarded Mr. McMillen brought in some hot-house grapes that were really fine, and much the best exhibited. Of Peaches and Plums there were very few. It is rather surprising that there should have been only a few dishes of rather indifferent peaches at a time when our market was pretty well supplied with them.

The Cut Flowers, Dahlias, Hanging Baskets, etc., were numerous and good. Mr. Burgess deserves special mention for the frequent renewal of his flowers, thus keeping his stands fresh and neat. Ornamental-leaved plants constituted a very interesting feature. These, together with some fine Orchids, were principally contributed by Mr. Buchanan, of Astoria, and Mr. Baker, of New York, the latter an enthusiastic amateur of orchideous plants, his collection being large and finely grown. In a better room the flowers would have made a much finer appearance.

The display of vegetables was not very large, but the samples were mostly good.

The prizes awarded in the Horticultural department were printed in our last issue.

Mr. Carpenter presided over this department in a manner that does him much credit. The arrangement of the articles was as good as could be made under the circumstances, and the labors of the judges were in consequence very much lightened. We may add, that Mr. Carpenter had on exhibition a large and very fine collection of fruit, not entered for competition.

The New York Grape Show.—This exhibition opened at the *Agriculturist* office on the 1st of October, and continued three days. The occasion was a very interesting one, being the first exclusively grape exhibition ever held in the city, and brought together a large number of persons devoted more or less to grape culture. Being free to the public, they availed themselves of the opportunity in large numbers. The samples shown were numerous, and embraced all the well-known varieties of grapes, besides some that have not yet been offered to the public. Among the varieties shown were the Delaware, Allen's Hybrid, Diana, Anna, Catawba, Isabella, Concord, Hartford Prolific, To-Kalon, Creveling, Adirondac, Maxatawny, Loomis' Honey, and others, besides a number of seedlings, among which was the Iona, which deservedly took the first prize. The names of the principal exhibitors will be found in the prize list, except that of Mr. Knox, who came in too late for competition. He made a large and very good display.

An exhibition of this kind affords an excellent opportunity for comparisons, and we observed that many employed themselves in this way, and we have no doubt profitably. A meeting for conversational purposes would have added much to the interest of the occasion, and should not be overlooked if these exhibitions are continued. It is so rare to get a large body of grape growers together, that the occasion should not be allowed to pass by unimproved.

The extent and character of the exhibition were quite satisfactory to Mr. Judd. It might, no doubt, have been larger if earlier notice had been given. There were some parties about New York who might have exhibited, but did not. The excuse made in one instance at least was, that the party could cut three good bunches, but not five. An excuse like that should never be made in the presence of a grape grower, for he will be very apt to think there is something behind it. A man who has a vine from which he can not cut five good bunches should do one of two things: either dig it up and throw it away, or change his mode of culture. We do not admit an excuse like that to be valid.

Among the prizes offered was one for the best flavored grape. This was awarded to the Adirondac. The decisions of judges, as a general thing, we pass by without criticism; but this one is so extraordinary that it challenges at least a few remarks. It must be borne in mind that the prize was for *flavor* alone, without regard to earliness, size, or any thing else but this; yet with the Delaware, Diana, Anna, and Allen's Hybrid before them, the judges gave the prize to the Adirondac. We do not wish to de-

tract in the least from the character of the Adirondac, which is really a good grape; but in *flavor* it certainly will not compare with any of those we have named, and especially will it not compare with the Delaware. It is almost as if one should compare the Muscat of Alexandria with the Sweetwater, or the Seckel with the French Jargonelle. It is said that tastes differ, and we allude to the subject to let our readers know how widely our taste differs from that of those who consider the flavor of the Adirondac superior to that of the Delaware. Mr. Downing was chairman of this committee; but we are authorized to say that he dissents from this decision in the most emphatic manner. With his discriminating taste and large experience among native grapes, we should have been surprised if it had been otherwise.

Appended is the list of prizes:

Best native seedling, which has never before taken a prize, $10; to Dr. C. W. Grant, for "Iona."

Best collection of native grapes, $10; to A. S. Fuller, of Brooklyn.

Second best collection of native grapes, $5; to M. Olm, Flushing, gardener to Orange Judd, 41 Park Row, N. Y.

Best six varieties of native grapes, $4; to F. F. Merceron, Catawissa, Pa.

Second best six varieties of native grapes, $2; to George W. Martin, Brooklyn, E. D., N. Y.

Best four varieties of native grapes, $3; to W. Brocksbank, Hudson, N. Y.

Second best four varieties of native grapes, $2; to Frederic Baumeister, East Newark, N. J.

Best five bunches of native grapes of any kind, quality to rule, $2; to J. W. Bailey, Plattsburg, N. Y., for "Adirondac."

Best five bunches of Delaware, $2; to E. O. Eaton, Troy, N. Y.

Best five bunches of Diana, $2; to F. C. Brehm, Waterloo, N. Y.

Best five bunches of Catawba, $2; to W. B. Wescott, N. Y., (grown in city yard.)

Best five bunches of Concord, $2; to H. S. Young, Poughkeepsie, N. Y.

Best five bunches of Hartford Prolific, $2; to W. Taft, Fordham, N. Y.

Best five bunches of Herbemont, $2; to C. F. Erhardt, Ravenswood, L. I.

Best five bunches of Allen's Hybrid, $2; to John Hoag, Newburgh, N. Y.

Discretionary prize of $1, George W. Martin, Brooklyn, N. Y., for Brinkley, grown out of doors.

Discretionary prize of $1, to Peter Raabe, Philadelphia, Pa., for Loomis' Honey, for flavor.

Discretionary prize of $3, to N. Armstrong, Bergen, N. J., for collection of hot-house grapes.

CATALOGUES, &C.

C. W. Grant, Iona, near Peekskill, N. Y.—Illustrated Catalogue of Vines.

John Best, Utica, N. Y.—Wholesale Catalogue of Grapes, Currants, &c.

CORRESPONDENCE.

EDITOR HORTICULTURIST,—Before your Hints on Grape Culture appeared, I had planted a row of vines four feet apart, intended for a different training. Pleased with the simplicity of your plan, and the clear and explicit instructions given for carrying it out, I adopted it for a portion of the vines. I think, however, that the arms, in my case, are too short to furnish bearing-wood for the capability of the vines. Will it answer to convert the safety-valves into a second pair of arms, say two and a half feet above the others, duly providing them with safety-valves?

Or the following plan: to stop the safety-valves and all the bearing shoots at the proper point for fruiting, except those on the ends of the arms, which are to be grown for the extension of the arms, hereafter to be trained in, towards the center, two and

a half feet above? A word of advice through the HORTICULTURIST will be thankfully received.

Although the subject of grafting the vine is pretty much exhausted, I believe I can give some information that will be new to at least a portion of your readers. I grafted the vine November last, about the middle of our Indian summer. Also on the 13th of January, the 19th of February, and the 2d day of March. The grafts all took, and made good growths.

To throw some light on a mooted question, whether any advantage is gained by very early grafting, the stocks grafted in November and February, both very strong and vigorous, and supposed to be about equal in root-power, were selected for the purpose. The former, a Catawba, was branched under ground, in consequence of raising the border. In each branch was inserted a Delaware graft. They pushed no earlier than some others subsequently grafted. After a few leaves were made, one of the shoots was accidentally knocked off. Soon after, several others started from the old wood, all of which were broken off excepting the strongest, which I intended to remove as soon as any check should be discovered in the growth of the Delaware. On further consideration, I concluded it would be a fair test of the question to let it grow. The Delaware kept the advantage till about the first of August, when the Catawba took the lead. They were both stopped on the first of this month, the Delaware having made over thirteen feet of wood and callipered seven-sixteenths of an inch at the first internode. The Catawba fourteen feet, and measured at the same point a half inch in diameter.

The latter, a Herbemont, into which was grafted a Lincoln, two buds pushed from the same joint, and made respectively eighteen and twenty feet of wood; the larger measuring nine-sixteenths and the smaller a half inch in diameter at the first internode. In all cases the laterals were regularly pinched in.

From the many experiments, the many successes and failures I have made within the past five years, I am now confident that in southern Ohio the vine can be successfully grafted under ground, when clear of frost, from the middle of November to the middle of July, excepting a short period during the first flowing of the sap in the spring; but with much greater certainty if done while the stock is dormant. That if the graft is neatly fitted and accurately adjusted in the stock, which the vine requires, success is just as sure as on the apple or pear.

To avoid failures in winter-grafting, particularly on small stocks, the grafts should be tied in with narrow strips, cut from thin sheet gum elastic, which retain their strength and elasticity for many months under ground, and readily yield to the expansion of the stocks.

In stocks intended for winter grafting, if headed down late in the fall and well-covered with earth till worked, the grafts take more kindly and push earlier, than when headed down at the time of grafting.

Yours truly, J.

Chillicothe, O., Sept. 28, 1863.

[Of the two plans suggested, the first is the best; but we do not quite like either. The objection to the first is, that in the course of a few years the lower course of arms will become almost barren. If you think your vines can carry more fruit than is now provided for, you can follow a plan that we practice occasionally. It is very simple, and not open to the objections which lie against the plans you propose. We shall illustrate it in our "Hints" before long, but will now endeavor to make you understand it by mere words. The safety valves are carried up on the back of the trellis. Instead of cutting the safety valves at the base, prune them about two feet long. They are then to be bent down short at nearly a right angle with the line of the trellis, stakes driven into the ground, and the ends of the safety valves tied to them. If they were bent at precisely a right angle, they would touch each other, which they should not. The canes, when rightly placed, will be in

the form of a V. The two shoots that proceed from nearest the base must be grown as safety valves; the other shoots may be fruited, but their ends must be pinched out as soon as the clusters come into flower. The laterals must also be pinched in to one leaf; in short, these shoots must be severely pinched in till the safety valves are strongly established. The same course may be repeated year after year, or as long as your vines will bear it. You will get a better idea of the operation when we come to illustrate it.—Your remarks on grape grafting are very interesting. We think it is pretty well established that early grafting is most successful. The majority of failures occur where the graft is put in just before or during the flow of the sap.—Your postscript, announcing the death of El Medico, sent a pang of sadness to our heart; for we had learned to love him without ever having seen him. Horticulture, in him, has lost one of its most devoted and intelligent followers. —Ed.]

Editor Horticulturist, — My attention was first called to the Delaware grape by an article in your excellent magazine, the Horticulturist, some two years ago last spring, at which time I moved on a small place in the country, a short distance from Troy.

The same spring I purchased from a western house a few Delaware vines, (a larger portion of which, by-the-way, turned out to be any thing but Delawares,) and the following fall I received a few vines from Dr. Grant, (that were simon pure,) and send you, accompanying this, a few bunches I to-day cut from one of the vines had of the Dr. Can any one at the exhibition, (grape,) now being held at 41 Park Row, (which I designed, but am prevented attending,) show better and finer bunches of Delawares from so young vines, having but ordinary care and culture, and grown, too, in a very exposed situation?

I have grown a number of other varieties, set at the same time; and notwithstanding all that has been said and written about the Delaware being a poor and feeble grower, etc., I have not on my place a vine of any kind that has done better, or as well in every particular as the Delaware; and when the quality of the fruit is brought in question, words are not to be found in my vocabulary to express the excellence of the Delaware over all other kinds grown out of doors; and I sometimes think I prefer them to the foreign kinds I have growing under glass. But not to be tiresome, have I not succeeded well with my Delawares? Are they not good?

I have some 600 feet of grape trellis, and some dozen varieties of grapes growing. I now wish I had but one variety, and that the Delaware. Dr. Grant and yourself have not said half enough in its praise.

Very respectfully yours, E. O. Eaton.
Troy, N. Y., Sept. 30, 1863.

[We can best answer your question about the grape exhibition by congratulating you that you took the *first prize* for Delaware grapes. That is pretty good evidence that nobody did show better, though there were many on the table that were very fine. You have indeed succeeded well with your Delawares. It is a great satisfaction to us to know that we were instrumental in first calling your attention to it. From the many thousands who have planted it on our recommendation, we have not yet heard the first word of regret. Your letter will be an encouragement for others to plant this most delicious grape.—Ed.]

Editor Horticulturist,—I herewith send you what is considered a new grape in this place. You will please give name, etc., if known, in next number of Horticulturist. The specimen I send you is not a fair one. The grapes were nearly all taken from the vine before I saw it. It is entirely different from any other variety known here.

Respectfully yours, L. K. Basove.
Farmersville, O.

[The grapes came duly to hand. We are sorry to cause you any disappointment, but they are the *Vitis labrusca*, and have no value at all for cultivation.—Ed.]